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Research Article

CAUSES OF LAPAROTOMY IN PAEDIATRIC POPULATION AT A TERTIARY CARE HOSPITAL OF LAHORE

¹Dr. Wardah Sahar Khan, ²Dr. Sehrish Qayyum Khokhar, ³Dr. Mariam Dar

¹Dow University of Health Sciences Karachi, Pakistan.

²Services Institute of Medical Sciences Lahore, Pakistan.

³Fatima Jinnah Medical College Lahore, Pakistan

Abstract:

Laparotomy is a major undertaking in surgery. Paediatric population generally constitutes children below the age of 12 years. Despite, there being marked development in the field of paediatric surgery in our country, there is limited data available in this regard. Aim of our study was to determine the causes due to which laparotomies were carried out in our hospital. A total of 258 patients were included in our study. We carried out a prospective descriptive study from 1st July, 2016 to 30th June, 2017. Our results showed that incidence was higher in male gender (65.89%). The most common cause was congenital malformations (28.29%) with infective causes also being very common (21.70%).

Key Words: Laparotomy, Paediatric, Tertiary Care.

Corresponding author:

Dr. Wardah Sahar Khan,

*Dow University of Health Sciences,
Karachi, Pakistan.*

QR code



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INTRODUCTION:

Ephraim Mc Dowell performed first successful laparotomy in 1809, without anesthesia [1]. Laparotomy is a surgical procedure which involves an incision through the abdominal wall. The aim is to gain entry and access into the peritoneal cavity. Paediatric surgery is a specialized branch of surgery which deals with the surgical ailments befalling the paediatric population. Generally, children below the age of 12 are considered as paediatric in our country. The British National Formulary for Children, for example, provides doses for neonates (under 1 month in age), then for children from 1 month to 4 years, and for children 4 year to 10 years [2]. The US FDA3 classification is neonate (birth to 1 month), infant (1 month to 2 years), children (2 to 12 years) and adolescent (12 to < 16 years) [3].

For a long time, paediatric patients were operated upon by general surgeons. A surgeon would carry out an operation on a geriatric patient one day and the next day upon a newly born. With growing specialization and research, it has been highlighted that each group presents different challenges. Researches showed unique features both, anatomical as well as physiological, related to paediatric age

group. Paediatric surgery as a separate discipline, got recognized in West shortly after second world war. In Pakistan, paediatric surgery started in early sixties [4]. With time, paediatric surgery has greatly progressed in Pakistan with specialized units and specialized programs being set up in various institutes of the country. However, there is still a dearth of data regarding the incidence and burden of disease in general and especially in paediatric population in our country. The aim of our study was to determine the various causes due to which laparotomy was performed in paediatric population.

PATIENTS AND METHODS:

This is a single institute prospective descriptive study. We collected data of patients who underwent laparotomy at Department of Paediatric Surgery at Mayo Hospital, Lahore from 1st July 2016 to 30th June 2017. Age and gender of patients and cause of their undergoing laparotomy was analyzed. Age wise the patients were divided into three groups: neonate (less than 1 month old), infant (between 1 month to 2 years) and children (between 2 years to 12 years).

RESULTS:

The results are summarized in tables 1, 2 and 3.

TABLE 1: Break down by Gender

GENDER	NUMBER	PERCENTAGE
Males	170	65.89%
Females	88	34.10%

TABLE 2: Break down by Age

AGE	NUMBER	PERCENTAGE
Neonate(less than 1 month)	69	26.74%
Infant(1 month to 2 years)	41	15.89%
Child(2 to 12 years)	148	57.36%

TABLE 3: Break down by Cause

CAUSES	CASES
CONGENITAL	73 (28.29%)
ATRESIA	44
OMPHALOCELE/ GASTROCHISIS	10
HIRSCHSPRUNG DISEASE	7
DIAPHRAGMATIC HERNIA	2
CYSTS	4
MECKELS DIVERTICULUM	1
VOLVULUS	2
HERNIA	2
OBSTRUCTION	60 (23.25%)
ADHESION/ BANDS	43
INTUSSUSCEPTION	15
WORMS	2
INFECTIVE	56 (21.70%)
ACUTE PERFORATION	44
TB ABDOMEN	9
NEC	3
TRAUMATIC	36 (13.95%)
BLUNT	30
PENETRATING	6
REDO SURGERIES	21 (8.13%)
MASS	12 (4.65%)
TOTAL: 258	

DISCUSSION:

A total of 258 cases of laparotomy were done over a period of 1 year from 1st July, 2016 to 30th June, 2017.

Of these cases, a majority were **male (65%)**. This is similar to findings of other researchers [5-7]. Also, the majority of our cases were **children** who

comprised **more than 50%** of the total number, whereas neonates and infants comprising a much lesser number. This may be due to the fact that the health care resources and awareness about the diagnosis and correction of paediatric problems especially among neonates is very little in an underdeveloped country like ours. Similar findings

are also noted by other authors from less developed countries [8].

Looking into the detail of causes due to which laparotomy was performed, majority of workload was due to the correction of **congenital malformations (28%)**. It is therefore essential that the health care facilities for newly born should be improved, the health care personnel who look after them should be able to recognize these conditions and refer the patients timely so that they may be corrected.

Among the other causes, **Obstruction (23%)** was the second most common cause of laparotomy at our unit. Moreover, almost **22%** of the laparotomies were done due to **infective causes** which highlights the fact that there is need for better sanitation and hygiene, and all these laparotomies could have been prevented by precautions. Nearly **14%** of the laparotomies were done due to **traumatic injuries** which included both blunt and penetrating injuries, and almost **8%** cases were due to **redo surgeries**. Similar rates are also reported by other authors.⁸

LIMITATIONS

This was a small scale single institution study done with the main objective to determine the disease burden. Further detailed studies on larger scale should be carried out to determine more accurate data.

CONCLUSION:

On the basis of our research, we conclude that **congenital conditions** constitute the most common cause of laparotomies. There is a preponderance of **male** patients with the increased frequency among **children** (2-12 years). However, preventable infective conditions constitute nearly one-fifth of the patients presenting for laparotomy.

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